

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/Ala Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006377**Date Inspected:** 12-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Jia**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Components**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector George Goulet was present during the times noted above for observations relative to the work being performed.

**Bay 11**

This QA Inspector, George Goulet, proceeded to Bay 11 in response to a ZPMC notification of witness inspection #2636 to perform MT inspection as follows:

This QA Inspector, George Goulet, performed VT of 100% of the area and MT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector, George Goulet, generated an MT report for this date. The member is identified as ED1-A29A/B. The weld designations reviewed are as follows: 18~25, 78~85. This QA Inspector, George Goulet, also notated MT review on the member and noted Caltrans acceptance on ABF documentation.

**Bay 6**

This QA Inspector, George Goulet, proceeded to Bay 6 in response to a ZPMC notification of witness inspection #2537 to perform MT inspection as follows:

This QA Inspector, George Goulet, performed VT of 100% of the area and MT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector, George Goulet, generated an MT report for this date. The member is identified as SP741-001. The weld designations reviewed are as follows: 54~65. This QA Inspector, George Goulet, also notated MT review on the member.

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This QA Inspector, George Goulet, performed VT of 100% of the area and MT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector, George Goulet, generated an MT report for this date. The member is identified as SP502-001. The weld designations reviewed are as follows: 15~28. This QA Inspector, George Goulet, also notated MT review on the member.

This QA Inspector, George Goulet, performed VT of 100% of the area and MT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector, George Goulet, generated an MT report for this date. The member is identified as SP743-001. The weld designations reviewed are as follows: 13~24. This QA Inspector, George Goulet, also notated MT review on the member.

This QA Inspector, George Goulet, performed VT of 100% of the area and MT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector, George Goulet, generated an MT report for this date. The member is identified as DP205-009. The weld designations reviewed are as follows: 001~004. This QA Inspector, George Goulet, also notated MT review on the member.

### Bay 9 - PMT

This QA Inspector, George Goulet, monitored OBG Production Monitoring Test (PMT) #1 for deck panels DP346-001 and DP130-001 at Gantry #2. Prior to PMT #1, the magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Xu Bing. The visual inspection of tack welds and root gap was performed by ABF Representative Lv Yun (ABF), ZPMC CWI Li Jia (QC), and this QA Inspector, George Goulet. The start time for welding of PMT #1 was approximately 0017 hours on Monday, 4/13/09 and the finish time was approximately 0047 hours. This QA Inspector, George Goulet, randomly verified and documented the welding amperage, voltage and travel speed during the gas metal arc welding (GMAW) and submerged arc welding (SAW) processes, welds 1 thru 6 at the completion of both the GMAW root pass and SAW cover pass. The welds were visually inspected by ABF, QC and this QA inspector, George Goulet. QC and ABF informed this QA Inspector, George Goulet, that all six welds were acceptable and this QA Inspector, George Goulet, concurred. This QA Inspector, George Goulet, randomly witnessed ZPMC ultrasonic testing (UT) inspector, identified as Xue Hai Rong, perform UT on each of the 500 mm test welds for depth of penetration and conformance. This QA Inspector, George Goulet, selected fifteen designated locations for macroetch sampling per contract requirements. Each macroetch location was stamped by ZPMC personnel with the number 346, the letter E, and an individual macroetch identifying number for each macroetch. After removal from each of the weld test specimens and polishing of the selected end, the macroetches were evaluated with a 7X optical comparator and a 10X optical comparator and accepted by QC, ABF, and this QA Inspector, George Goulet.

All fifteen sample macros appeared to meet requirements and were noted to appear acceptable. See Caltrans U-ribs PMT Inspection Sheet, ZPMC production monitoring test plate inspection report, and Caltrans Macro Etch Log - all dated 4/13/2008 for additional information.

### Summary of Conversations:

As noted above, and this QA Inspector, George Goulet, asked QC if all the welding variables observed by him appeared to comply with the appropriate WPS, including the preheat requirements according to thickness of the thickest member being welded. QC showed this QA Inspector, George Goulet, that he was carrying the proper temperature sticks to monitor the minimum and maximum preheat and interpass temperatures and replied that all he observed did appear to comply.

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### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 134-8257-0045, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Goulet, George	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

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